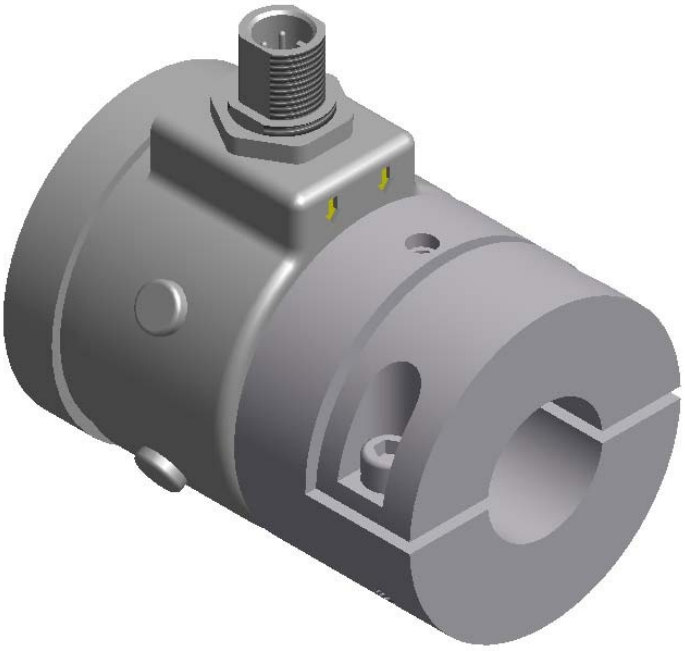
MAXCESS

MAGPOWR FIFE TIDLAND

MAGPOWR TS Load Cell

User Manual



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About these operating instructions

All of the information herein is the exclusive proprietary property of Maxcess International, and is disclosed with the understanding that it will be retained in confidence and will neither be duplicated nor copied in whole or in part nor be used for any purpose other than for which disclosed.
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Periodically there will be updates to this manual. The latest version is available at *www.magpowr.com* or by calling 800.MAGPOWR (800.624.7697) or 405.755.1600.
These load cell devices must not be installed or used in a machine or system which does not comply with the machinery directive 2006/42/EC.
These load cell devices were designed and manufactured to be installed as Partly Completed Machinery into a machine or partly completed machine.
The instructions must be read and used by all persons who have the responsibility of installing and maintaining these load cell devices.
These instructions must be retained and incorporated in the technical documentation for the machine or partly completed machinery into which the load cell device is installed.

CE marking

Only the 2006/42/EC Machinery directive applies to these devices and they are not marked with the CE sign.
Electromagnetic Compatibility (EMC)
The load cell device is inherently benign in terms of electromagnetic compatibility and the EMC directive has not been applied. The electromagnetic compatibility of the load cell device can only be assessed in connection with the entire electrical installation including the control. The machine builder who installs this partly completed machinery into a machine is responsible for compliance with the EMC directive.

Product overview

The MAGPOWR TS web tension sensors are extremely accurate devices used to measure tension in any unwind, rewind, or intermediate web processing application. The unique low profile design minimizes space requirements inside the machine frames, thus maximizing the potential for web width. The TS model sensors also offer the flexibility of a variety of mounting styles and coupling options.

MAGPOWR web tension sensors are ruggedly constructed with mechanical overload stops in both force directions to eliminate sensor damage and the need to recalibrate even after extreme overloads. A full Wheatstone bridge arrangement of four foil strain gages is used in each sensor for the most accurate means of measuring web tension. In addition, all sensors incorporate a dual beam construction design to insure linear output under all loading conditions.

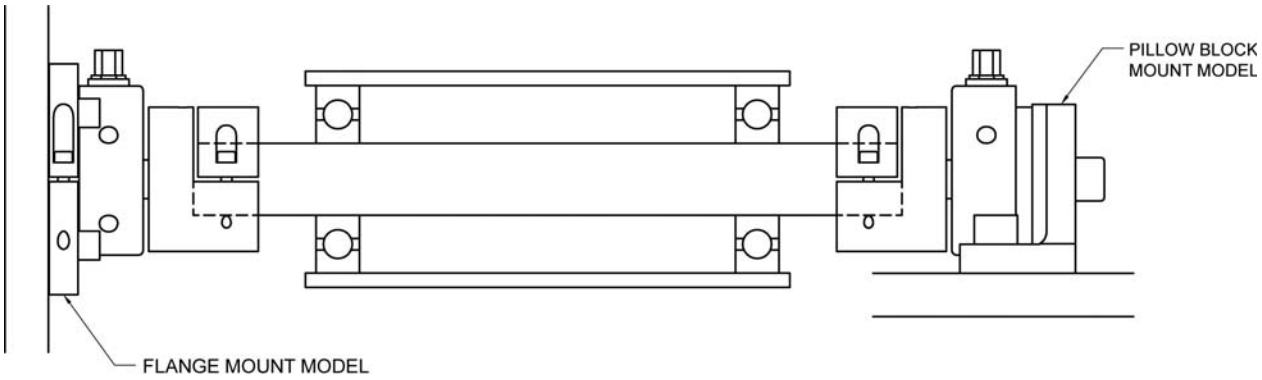
The TS style tension sensors can be mounted to the machine side frame in one of several ways. They can be mounted on a vertical surface using the Stud mount model, or the Flange mount model, or to a horizontal surface using the Pillow Block model.

The TS style tension sensors allow three methods of coupling to the customer's application. The coupling types are Split couplings, In-Roll coupling and Wire Pulley.

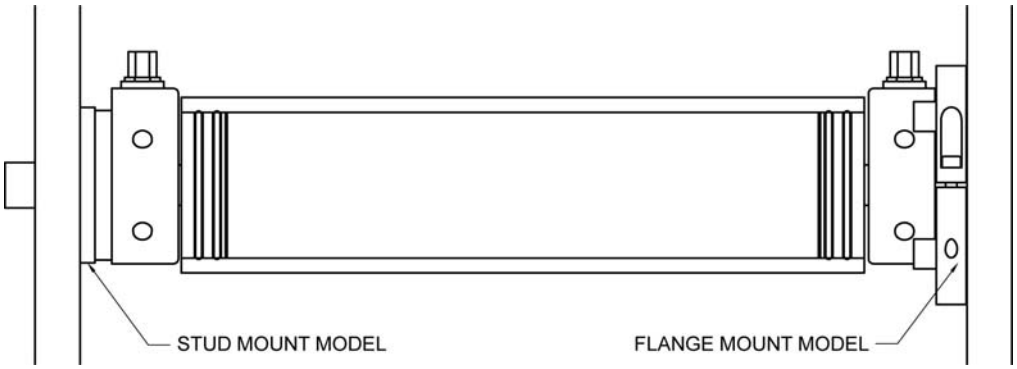
The TS style tension sensors allow any combination of mounting and coupling types.

Mounting and coupling options

The Split Coupling configuration supports the customer's dead or live shaft on each side of the machine.



The In-Roll configuration supports the customer's roll assembly (hollow tube) on each side of the machine.



The Wire Pulley coupling configuration supports the single strand or wire, and measures tension in the wire or strand as it passes over the pulley.

Instructions for use

To ensure safe and problem free installation of the load cell device, the load cell must be properly transported and stored, professionally installed and placed in operation. Proper operation and maintenance will ensure a long service life of the device.
Only persons who are acquainted with the installation, commissioning, operation and maintenance of the system and who possess the necessary qualifications for their activities may work on the load cell. **Note:** The safety information may not be comprehensive.
Please note the following:
The content of these operating instructions
Any safety instructions on the device
The machine manufacturer's specifications
All national, state, and local requirements for installation, accident prevention and environmental protection

Information about safety instructions

The safety instructions and symbols described in this section are used in these operating instructions. They are used to avoid possible dangers for users and to prevent material damage.

SIGNAL WORD
Source of danger and its results
Avoiding dangers

The signal word **DANGER** refers to the danger of death or serious bodily injuries.
The signal word **WARNING** refers to the danger of moderate to severe bodily injuries.
The signal word **CAUTION** refers to the danger of slight to moderate bodily injuries or material damage.
The signal word **NOTICE** refers to the possibility of damage to equipment.

Symbols used

The following safety identification symbols are used in these operating instructions.

WARNING/CAUTION – General danger or important note
Reference to general hazards that may result in bodily injuries or damage to device or material.

WARNING/CAUTION – Danger due to crushing
Reference to danger of injury caused by crushing.

WARNING/CAUTION – Danger due to cutting
Reference to danger of injury caused by cutting.

WARNING/CAUTION – Danger due to voltage, electric shock
Reference to danger of injury caused by electric shock due to voltage.

WARNING/CAUTION – Danger due to hot surfaces
Reference to risk of injury caused by burning.

Basic safety information

Proper use

The load cell devices are intended to be used on machines or systems to monitor the tension in a web.
Indoor operation.

Improper use

Operation outside the technical specifications
Operation in an Ex-area or intrinsically safe area without a proper barrier.
Any other use than the proper use shall be deemed inappropriate

Installation and commissioning

Any load cell device that is damaged must not be installed or put into operation.

Only perform installation, maintenance or repair tasks on the load cell device when the machine has been stopped and is secured from being turned on.
Only perform installation, maintenance or repair tasks on the load cell device when there is no electrical power in the system.
The load cell device must be securely mounted before being placed in operation.
No modifications may be made to the load cell device.
Do not place electrical cables under mechanical strain.

Maintenance and repair

Warning – Danger of injury from crushing
Maintenance and repair tasks on the load cell device must be performed only when the machine has been stopped and has been secured from being turned on again.

Decommissioning

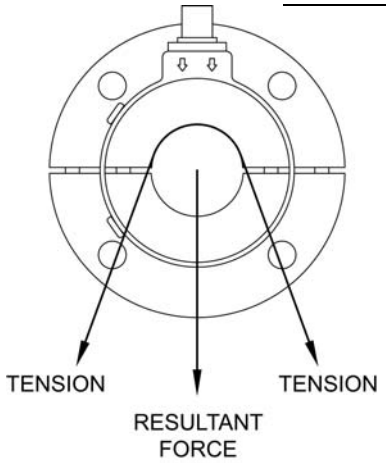
The load cell must be disposed of in accordance with all the applicable national, state and local regulations.

Mechanical and electrical installation

CAUTION – Possible damage to load cell.
Do not hammer on the load cell.

CAUTION – Possible damage to load cell.
Do not disassemble the load cell – there are no serviceable parts inside the unit.

WARNING – Danger of injury from crushing.
Maintenance and repair tasks on the load cell device must be performed only when the machine has been stopped and has been secured from being turned on again.



General

Select a clean flat surface where the wrap angle of the web does not change. Position the vertical centerline of the sensor so that it bisects the wrap angle of the web.
If the orientation of the sensor requires the force direction arrow to be pointed opposite the resultant tension force direction, then the black (–S) and the white (+S) sensor leads to the MAGPOWR readout or control terminal block must be reversed.

Stud mount

Fasten to the machine frame with a bolt making sure that the bolt penetration does not exceed 12.7 mm [0.50 in]. A small hole is provided in the rear of the sensor to accept a pin to aid in alignment.

Flange mount

For the flange mounted version, fasten to the machine frame with 4 bolts.

Pillow block mount

For the pillow block style, mount the pillow block adapter with two bolts. A series of holes is provided in the pillow block adapter to allow alignment of the sensor with the resultant force.

Mechanical and electrical installation (continued)

Shaft and roll assembly (supplied by customer)

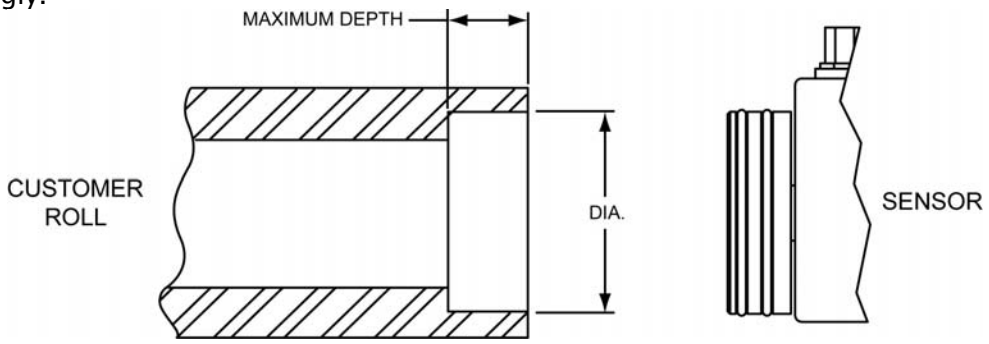
The sensor split coupling or in-roll coupling can accommodate shaft misalignment of 0.001 mm/mm [0.001 in/in].
Example: For 600 mm between machine side frames, the sensor must be aligned within .600 mm.

Split coupling models

Split coupling sensors can be used for both live and dead shaft applications. All split coupling sensors are shipped with the coupling locked in place for use with a dead shaft. For live shaft applications remove the anti-rotation screw located behind the removable part of the split coupling.
Remove the coupling screws and top half of the couplings. Gently lower the shaft/roller assembly into the couplings. The couplings have some misalignment capability to facilitate shaft mounting. Replace one coupling top half and screws. Tighten screws securely. Push this coupling toward the machine frame, and hold it in position while securing the coupling on the other end of the shaft. This will divide the thermal expansion capability between the two sensors.

In-roll coupling models

Insert one sensor into each end of a machined tube and install between machine frames accordingly.



52.0 +.05/-.00 mm diameter; 0.53 in. (13.5 mm) maximum depth for 5 lb, 50 lb, 2 kg, and 25 kg sensors
62.0 +.05/-.00 mm diameter; 0.76 in. (13.9 mm) maximum depth for 150 lb, 500 lb, 75 kg, and 250 kg sensors

Maintenance

No maintenance is required for the model TS sensors other than periodic lubrication of the bearing on the live shaft (rotating coupling) and in-roll applications.
A grease fitting is located on the top of the coupling for the split coupling models, and under the o-ring on in-roll coupling models. The grease fitting accepts a needle type grease gun. Lubricate the bearing with 1.0 gram Chevron SRI 2 or equivalent.

Model number key

Series – Load rating – Mounting type – Coupling type – Connector type – Units type – Sxx

Series	TS – Tension sensor
Load rating	in pounds = English units models in kilograms = Metric units models
Mounting type	S – Stud F – Flange P – Pillow block
Coupling type	C – Split coupling R – In-roll W – Wire pulley
Connector type	EC12
Units type	Blank – English units M – Metric units
Sxx	Specials – other variations

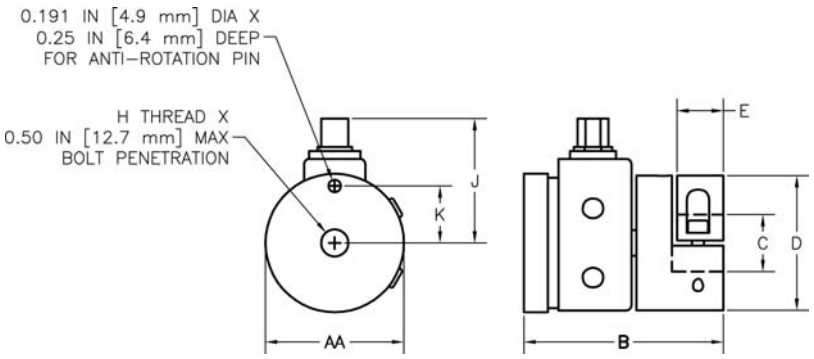
Available models

Mounting Type and Rating	Split Coupling Models	In-Roll Coupling Models	Wire Pulley Models
Stud Mount 5 lb Sensor	TS 5 SC EC12	TS 5 SR EC12	TS 5 SW EC12
Stud Mount 25 lb Sensor	TS 25 SC EC12	TS 25 SR EC12	TS 25 SW EC12
Stud Mount 50 lb Sensor	TS 50 SC EC12	TS 50 SR EC12	TS 50 SW EC12
Stud Mount 150 lb Sensor	TS 150 SC EC12	TS 150 SR EC12	TS 150 SW EC12
Stud Mount 500 lb Sensor	TS 500 SC EC12	TS 500 SR EC12	TS 500 SW EC12
Flange Mount 5 lb Sensor	TS 5 FC EC12	TS 5 FR EC12	TS 5 FW EC12
Flange Mount 25 lb Sensor	TS 25 FC EC12	TS 25 FR EC12	TS 25 FW EC12
Flange Mount 50 lb Sensor	TS 50 FC EC12	TS 50 FR EC12	TS 50 FW EC12
Flange Mount 150 lb Sensor	TS 150 FC EC12	TS 150 FR EC12	TS 150 FW EC12
Flange Mount 500 lb Sensor	TS 500 FC EC12	TS 500 FR EC12	TS 500 FW EC12
Pillow Block Mount 5 lb Sensor	TS 5 PC EC12	TS 5 PR EC12	TS 5 PW EC12
Pillow Block Mount 25 lb Sensor	TS 25 PC EC12	TS 25 PR EC12	TS 25 PW EC12
Pillow Block Mount 50 lb Sensor	TS 50 PC EC12	TS 50 PR EC12	TS 50 PW EC12
Pillow Block Mount 150 lb Sensor	TS 150 PC EC12	TS 150 PR EC12	TS 150 PW EC12
Pillow Block Mount 500 lb Sensor	TS 500 PC EC12	TS 500 PR EC12	TS 500 PW EC12
Metric Stud Mount 2 Kg Sensor	TS 2 SC EC12 M	TS 2 SR EC12M	TS 2 SW EC12M
Metric Stud Mount 10 Kg Sensor	TS 10 SC EC12 M	TS 10 SR EC12M	TS 10 SW EC12M
Metric Stud Mount 25 Kg Sensor	TS 25 SC EC12 M	TS 25 SR EC12M	TS 25 SW EC12M
Metric Stud Mount 75 Kg Sensor	TS 75 SC EC12 M	TS 75 SR EC12M	TS 75 SW EC12M
Metric Stud Mount 250 Kg Sensor	TS 250 SC EC12 M	TS 250 SR EC12M	TS 250 SW EC12M
Metric Flange Mount 2 Kg Sensor	TS 2 FC EC12 M	TS 2 FR EC12 M	TS 2 FW EC12 M
Metric Flange Mount 10 Kg Sensor	TS 10 FC EC12 M	TS 10 FR EC12 M	TS 10 FW EC12 M
Metric Flange Mount 25 Kg Sensor	TS 25 FC EC12 M	TS 25 FR EC12 M	TS 25 FW EC12 M
Metric Flange Mount 75 Kg Sensor	TS 75 FC EC12 M	TS 75 FR EC12 M	TS 75 FW EC12 M
Metric Flange Mount 250 Kg Sensor	TS 250 FC EC12 M	TS 250 FR EC12 M	TS 250 FW EC12 M
Metric Pillow Block Mount 2 Kg Sensor	TS 2 PC EC12 M	TS 2 PR EC12 M	TS 2 PW EC12 M
Metric Pillow Block Mount 10 Kg Sensor	TS 10 PC EC12 M	TS 10 PR EC12 M	TS 10 PW EC12 M
Metric Pillow Block Mount 25 Kg Sensor	TS 25 PC EC12 M	TS 25 PR EC12 M	TS 25 PW EC12 M
Metric Pillow Block Mount 75 Kg Sensor	TS 75 PC EC12 M	TS 75 PR EC12 M	TS 75 PW EC12 M
Metric Pillow Block Mount 250 Kg Sensor	TS 250 PC EC12 M	TS 250 PR EC12 M	TS 250 PW EC12 M

Split coupling sensors

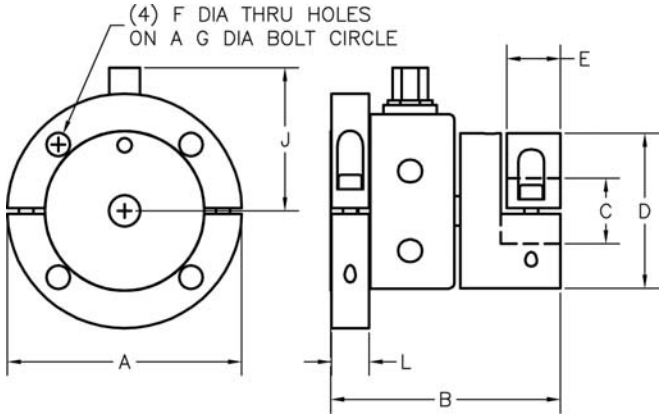
Stud mount models

TS5SCEC12,
TS25SCEC12
TS50SCEC12
TS150SCEC12
TS500SCEC12
TS2SCEC12M
TS10SCEC12M
TS25SCEC12M
TS75SCEC12M
TS250SCEC12M



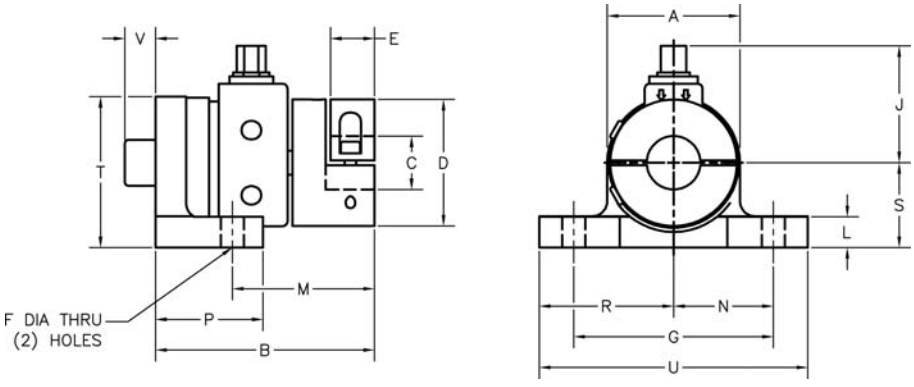
Flange mount models

TS5FCEC12
TS25FCEC12
TS50FCEC12
TS150FCEC12
TS500FCEC12
TS2FCMEC12
TS10FCMEC12
TS25FCMEC12
TS75FCMEC12
TS250FCMEC12



Pillow block models

TS5PCEC12
TS25PCEC12
TS50PCEC12
TS150PCEC12
TS500PCEC12
TS2PCEC12M
TS10PCEC12M
TS25PCEC12M
TS75PCEC12M
TS250PCEC12M



English split coupling models (units are in inches, weight in pounds)

MODEL	A	AA	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	WEIGHT
TS-5-SC-EC12		2.13	3.04	0.875	2.07	0.71			1/2-13	1.9	0.88										0.93
TS-25-SC-EC12		2.13	3.04	0.875	2.07	0.71			1/2-13	1.9	0.88										0.93
TS-50-SC-EC12		2.13	3.04	0.875	2.07	0.71			1/2-13	1.9	0.88										0.93
TS-150-SC-EC12		2.60	3.61	1.250	2.50	1.05			1/2-13	2.2	1.00										1.56
TS-500-SC-EC12		2.60	3.61	1.250	2.50	1.05			1/2-13	2.2	1.00										1.56
TS-5-FC-EC12	3.13		3.04	0.875	2.07	0.71	0.313	2.50		1.9		0.50									1.09
TS-25-FC-EC12	3.13		3.04	0.875	2.07	0.71	0.313	2.50		1.9		0.50									1.09
TS-50-FC-EC12	3.13		3.04	0.875	2.07	0.71	0.313	2.50		1.9		0.50									1.09
TS-150-FC-EC12	4.00		3.61	1.250	2.50	1.05	0.375	3.25		2.2		0.50									1.87
TS-500-FC-EC12	4.00		3.61	1.250	2.50	1.05	0.375	3.25		2.2		0.50									1.87
TS-5-PC-EC12	2.16		3.54	0.875	2.07	0.71	0.375	3.25		1.9		0.50	2.29	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.36
TS-25-PC-EC12	2.16		3.54	0.875	2.07	0.71	0.375	3.25		1.9		0.50	2.29	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.36
TS-50-PC-EC12	2.16		3.54	0.875	2.07	0.71	0.500	3.25		1.9		0.50	2.29	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.36
TS-150-PC-EC12	2.60		4.11	1.250	2.50	1.05	0.500	4.00		2.2		0.50	2.73	2.00	2.00	2.63	1.63	2.93	5.25	0.50	3.18
TS-500-PC-EC12	2.60		4.11	1.250	2.50	1.05	0.500	4.00		2.2		0.50	2.73	2.00	2.00	2.63	1.63	2.93	5.25	0.50	3.18

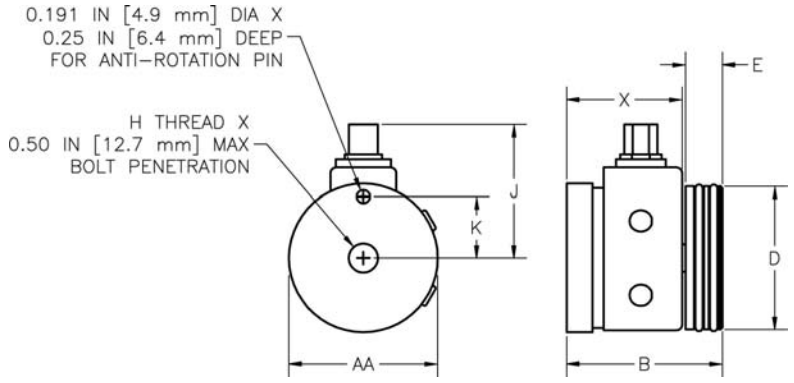
Metric stud mount split coupling models (units are in millimeters, weight in kilograms)

MODEL	A	AA	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	WEIGHT
TS-2-SC-EC12-M		54.0	77.2	30.0	52.5	18.1			M12 X 1.75	48	22.4										0.42
TS-10-SC-EC12-M		54.0	77.2	30.0	52.5	18.1			M12 X 1.75	48	22.4										0.42
TS-25-SC-EC12-M		54.0	77.2	30.0	52.5	18.1			M12 X 1.75	48	22.4										0.42
TS-75-SC-EC12-M		66.0	91.7	30.0	63.5	26.5			M12 X 1.75	56	25.4										0.71
TS-250-SC-EC12-M		66.0	91.7	30.0	63.5	26.5			M12 X 1.75	56	25.4										0.71
TS-2-FC-EC12-M	79.4		77.2	30.0	52.5	18.1	7.94	63.5		48		12.7									0.49
TS-10-FC-EC12-M	79.4		77.2	30.0	52.5	18.1	7.94	63.5		48		12.7									0.49
TS-25-FC-EC12-M	79.4		77.2	30.0	52.5	18.1	7.94	63.5		48		12.7									0.49
TS-75-FC-EC12-M	101.6		91.7	30.0	63.5	26.5	9.53	82.6		56		12.7									0.85
TS-250-FC-EC12-M	101.6		91.7	30.0	63.5	26.5	9.53	82.6		56		12.7									0.85
TS-2-PC-EC12-M	54.9		90.0	30.0	52.5	18.1	9.5	82.6		48		12.7	58.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	0.62
TS-10-PC-EC12-M	54.9		90.0	30.0	52.5	18.1	9.5	82.6		48		12.7	58.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	0.62
TS-25-PC-EC12-M	54.9		90.0	30.0	52.5	18.1	9.5	82.6		48		12.7	58.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	0.62
TS-75-PC-EC12-M	66.0		104.3	30.0	63.5	26.5	12.7	101.6		56		12.7	69.3	50.8	50.8	66.7	41.3	74.4	133.4	12.7	1.44
TS-250-PC-EC12-M	66.0		104.3	30.0	63.5	26.5	12.7	101.6		56		12.7	69.3	50.8	50.8	66.7	41.3	74.4	133.4	12.7	1.44

In-roll coupling sensors

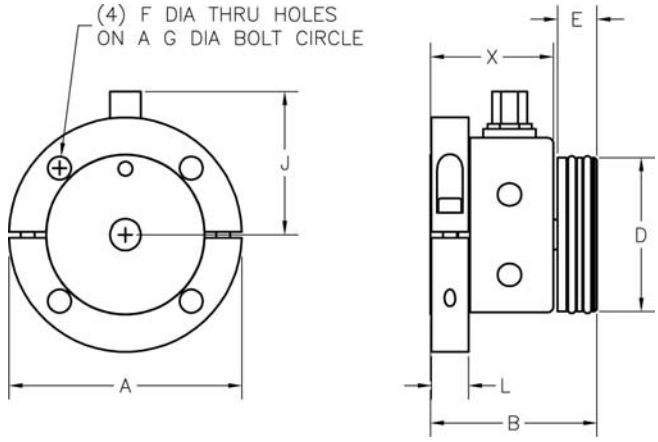
Stud mount models

TS5SREC12
TS25SREC12
TS50SREC12
TS150SREC12
TS500SREC12
TS2SCEC12M
TS10SCEC12M
TS25SREC12M
TS75SRWC12M
TS250SREC12M



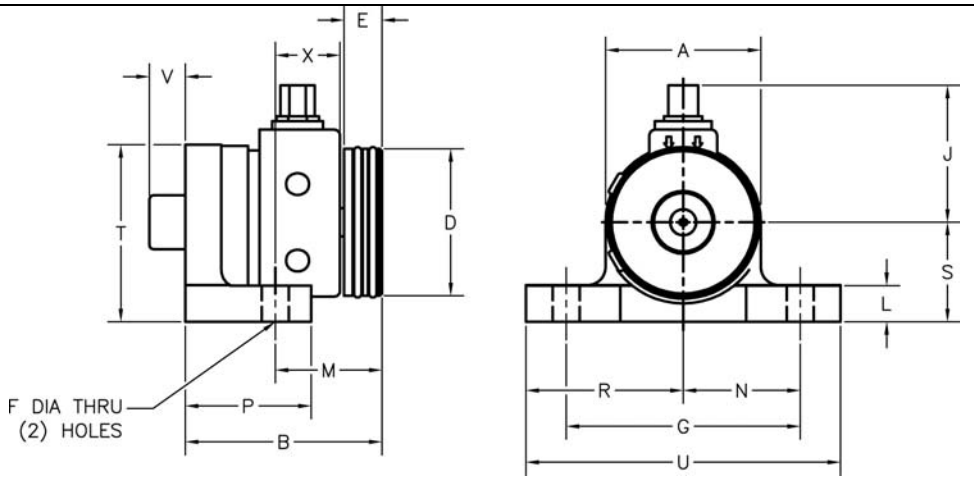
Flange mount models

TS5FREC12
TS25FREC12
TS50FREC12
TS150FREC12
TS500FREC12
TS2FREC12M
TS10FREC12M
TS25FREC12M
TS75FREC12M
TS250FREC12M



Pillow block models

TS5PREC12
TS25PREC12
TS50PREC12
TS150PREC12
TS500PREC12
TS2PREC12M
TS10PREC12M
TS25PREC12M
TS75PREC12M
TS250PREC12M



English in-roll models (units are in inches, weight in pounds)

MODEL	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	X	WEIGHT
TS-5-SR-EC12		2.13	2.23	2.05	0.53			1/2-13	1.9	0.88										1.65	0.93
TS-25-SR-EC12		2.13	2.23	2.05	0.53			1/2-13	1.9	0.88										1.65	0.93
TS-50-SR-EC12		2.13	2.23	2.05	0.53			1/2-13	1.9	0.88										1.65	0.93
TS-150-SR-EC12		2.60	2.47	2.44	0.76			1/2-13	2.2	1.00										1.66	1.56
TS-500-SR-EC12		2.60	2.47	2.44	0.76			1/2-13	2.2	1.00										1.66	1.56
TS-5-FR-EC12	3.13		2.23	2.05	0.53	0.313	2.50		1.9		0.50									1.65	1.09
TS-25-FR-EC12	3.13		2.23	2.05	0.53	0.313	2.50		1.9		0.50									1.65	1.09
TS-50-FR-EC12	3.13		2.23	2.05	0.53	0.313	2.50		1.9		0.50									1.65	1.09
TS-150-FR-EC12	4.00		2.47	2.44	0.76	0.375	3.25		2.2		0.50									1.66	1.87
TS-500-FR-EC12	4.00		2.47	2.44	0.76	0.375	3.25		2.2		0.50									1.66	1.87
TS-5-PR-EC12	2.16		2.73	2.05	0.53	0.375	3.25		1.9		0.50	1.48	1.63	1.75	2.13	1.38	2.46	4.25	0.50	0.91	1.36
TS-25-PR-EC12	2.16		2.73	2.05	0.53	0.375	3.25		1.9		0.50	1.48	1.63	1.75	2.13	1.38	2.46	4.25	0.50	0.91	1.36
TS-50-PR-EC12	2.16		2.73	2.05	0.53	0.375	3.25		1.9		0.50	1.48	1.63	1.75	2.13	1.38	2.46	4.25	0.50	0.91	1.36
TS-150-PR-EC12	2.60		2.97	2.44	0.76	0.500	4.00		2.2		0.50	1.59	2.00	2.00	2.63	1.63	2.93	5.25	0.50	0.79	3.18
TS-500-PR-EC12	2.60		2.97	2.44	0.76	0.500	4.00		2.2		0.50	1.59	2.00	2.00	2.63	1.63	2.93	5.25	0.50	0.79	3.18

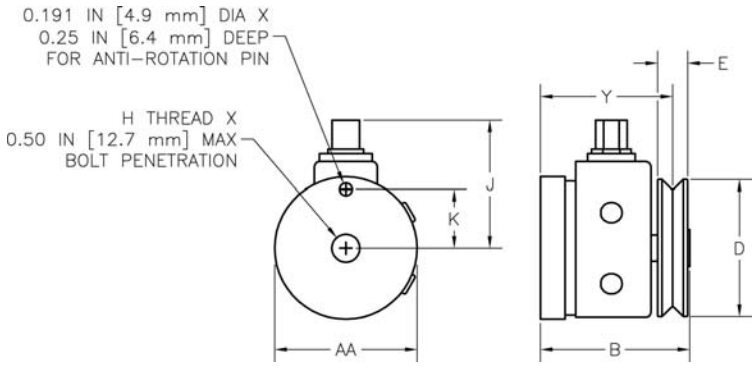
Metric stud mount in-roll models (units are in millimeters, weight in kilograms)

MODEL	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	X	WEIGHT
TS-2-SR-EC12-M		54.0	56.6	52.0	13.3			M12 X 1.75	48	22.2										42.0	0.42
TS-10-SR-EC12-M		54.0	56.6	52.0	13.3			M12 X 1.75	48	22.2										42.0	0.42
TS-25-SR-EC12-M		54.0	56.6	52.0	13.3			M12 X 1.75	48	22.2										42.0	0.42
TS-75-SR-EC12-M		66.0	62.7	61.8	19.4			M12 X 1.75	56	25.4										42.2	0.71
TS-250-SR-EC12-M		66.0	62.7	61.8	19.4			M12 X 1.75	56	25.4										42.2	0.71
TS-2-FR-EC12-M	79.4		56.6	52.0	13.3	7.94	63.5		48		12.7									42.0	0.49
TS-10-FR-EC12-M	79.4		56.6	52.0	13.3	7.94	63.5		48		12.7									42.0	0.49
TS-25-FR-EC12-M	79.4		56.6	52.0	13.3	7.94	63.5		48		12.7									42.0	0.49
TS-75-FR-EC12-M	101.6		62.7	61.8	19.4	9.53	82.6		56		12.7									42.2	0.85
TS-250-FR-EC12-M	101.6		62.7	61.8	19.4	9.53	82.6		56		12.7									42.2	0.85
TS-2-PR-EC12-M	54.9		69.3	52.0	13.3	9.53	82.6		48		12.7	37.6	41.3	44.5	54.0	34.9	62.5	108.0	12.7	23.1	0.62
TS-10-PR-EC12-M	54.9		69.3	52.0	13.3	9.53	82.6		48		12.7	37.6	41.3	44.5	54.0	34.9	62.5	108.0	12.7	23.1	0.62
TS-25-PR-EC12-M	54.9		69.3	52.0	13.3	9.53	82.6		48		12.7	37.6	41.3	44.5	54.0	34.9	62.5	108.0	12.7	23.1	0.62
TS-75-PR-EC12-M	66.0		75.4	61.8	19.4	12.70	101.6		56		12.7	40.4	50.8	50.8	66.7	41.3	74.4	133.4	12.7	19.9	1.44
TS-250-PR-EC12-M	66.0		75.4	61.8	19.4	12.70	101.6		56		12.7	40.4	50.8	50.8	66.7	41.3	74.4	133.4	12.7	19.9	1.44

Wire pulley coupling sensors

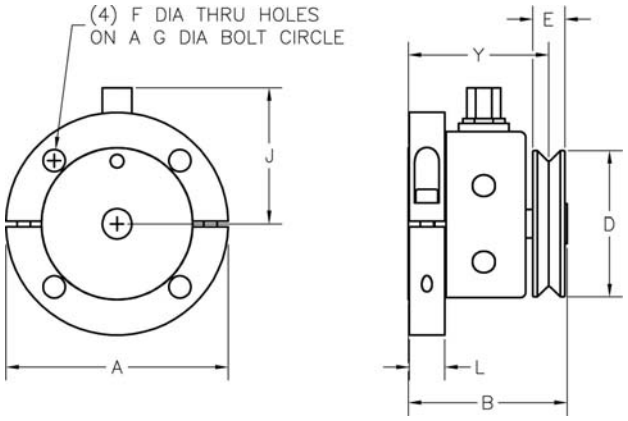
Stud mount models

TS5SWEC12
TS25SWEC12
TS50SWEC12
TS150SWEC12
TS500SWEC12
TS2SWEC12M
TS10SWEC12M
TS25SWEC12M
TS75SWEC12M
TS250SWEC12M



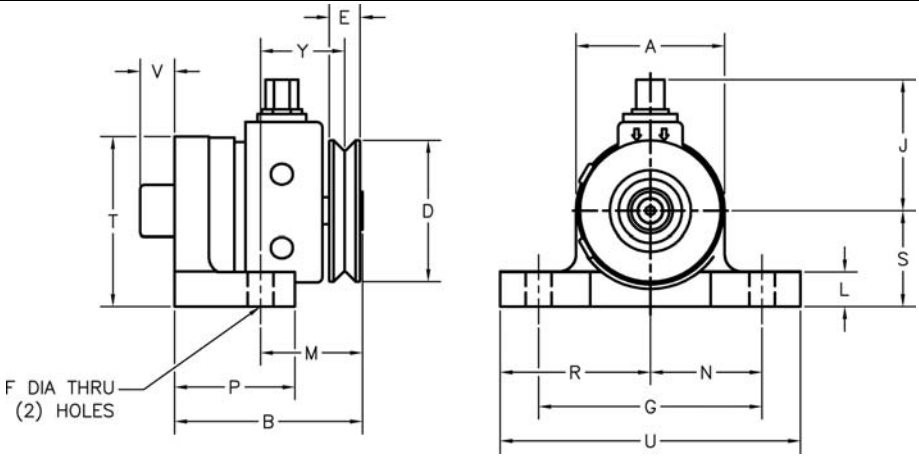
Flange mount models

TS5FWEC12
TS25FWEC12
TS50FWEC12
TS150FWEC12
TS500FWEC12
TS2FWEC12M
TS10FWEC12M
TS25FWEC12M
TS75FWEC12M
TS250FWEC12M



Pillow block models

TS5PWEC12
TS25PWEC12
TS50PWEC12
TS150PWEC12
TS500PWEC12
TS2PWEC12M
TS10PWEC12M
TS25PWEC12M
TS75PWEC12M
TS250PWEC12M



English wire pulley models (units are in inches, weight in pounds)

MODEL	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	Y	WEIGHT
TS-5-SW-EC12		2.13	2.25	2.05	0.45			1/2-13	1.9	0.88										1.97	0.68
TS-25-SW-EC12		2.13	2.25	2.05	0.45			1/2-13	1.9	0.88										1.97	0.68
TS-50-SW-EC12		2.13	2.25	2.05	0.45			1/2-13	1.9	0.88										1.97	0.68
TS-150-SW-EC12		2.60	2.43	2.70	0.57			1/2-13	2.2	1.00										2.07	1.08
TS-500-SW-EC12		2.60	2.43	2.70	0.57			1/2-13	2.2	1.00										2.07	1.08
TS-5-FW-EC12	3.13		2.25	2.05	0.45	0.313	2.50		1.9		0.50									1.97	0.84
TS-25-FW-EC12	3.13		2.25	2.05	0.45	0.313	2.50		1.9		0.50									1.97	0.84
TS-50-FW-EC12	3.13		2.25	2.05	0.45	0.313	2.50		1.9		0.50									1.97	0.84
TS-150-FW-EC12	4.00		2.43	2.70	0.57	0.375	3.25		2.2		0.50									2.07	1.39
TS-500-FW-EC12	4.00		2.43	2.70	0.57	0.375	3.25		2.2		0.50									2.07	1.39
TS-5-PW-EC12	2.16		2.75	2.05	0.45	0.375	3.25		1.9		0.50	1.50	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.23	1.11
TS-25-PW-EC12	2.16		2.75	2.05	0.45	0.375	3.25		1.9		0.50	1.50	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.23	1.11
TS-50-PW-EC12	2.16		2.75	2.05	0.45	0.375	3.25		1.9		0.50	1.50	1.63	1.75	2.13	1.38	2.46	4.25	0.50	1.23	1.11
TS-150-PW-EC12	2.60		2.93	2.70	0.57	0.500	4.00		2.2		0.50	1.55	2.00	2.00	2.63	1.63	2.93	5.25	0.50	1.19	2.70
TS-500-PW-EC12	2.60		2.93	2.70	0.57	0.500	4.00		2.2		0.50	1.55	2.00	2.00	2.63	1.63	2.93	5.25	0.50	1.19	2.70

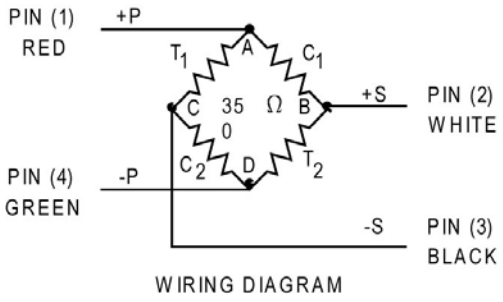
Metric stud mount wire pulley models (units are in millimeters, weight in kilograms)

MODEL	A	AA	B	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	Y	WEIGHT
TS-2-SW-EC12-M		54.0	57.1	52.0	11.4			M12 X 1.75	48	22.2										50.0	0.31
TS-10-SW-EC12-M		54.0	57.1	52.0	11.4			M12 X 1.75	48	22.2										50.0	0.31
TS-25-SW-EC12-M		54.0	57.1	52.0	11.4			M12 X 1.75	48	22.2										50.0	0.31
TS-75-SW-EC12-M		66.0	61.6	68.6	14.4			M12 X 1.75	56	25.4										52.5	0.49
TS-250-SW-EC12-M		66.0	61.6	68.6	14.4			M12 X 1.75	56	25.4										52.5	0.49
TS-2-FW-EC12-M	79.4		57.1	52.0	11.4	7.94	63.5		48		12.7									50.0	0.38
TS-10-FW-EC12-M	79.4		57.1	52.0	11.4	7.94	63.5		48		12.7									50.0	0.38
TS-25-FW-EC12-M	79.4		57.1	52.0	11.4	7.94	63.5		48		12.7									50.0	0.38
TS-75-FW-EC12-M	101.6		61.6	68.6	14.4	9.53	82.6		56		12.7									52.5	0.63
TS-250-FW-EC12-M	101.6		61.6	68.6	14.4	9.53	82.6		56		12.7									52.5	0.63
TS-2-PW-EC12-M	54.9		69.9	52.0	11.4	9.53	82.6		48		12.7	38.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	31.1	0.50
TS-10-PW-EC12-M	54.9		69.9	52.0	11.4	9.53	82.6		48		12.7	38.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	31.1	0.50
TS-25-PW-EC12-M	54.9		69.9	52.0	11.4	9.53	82.6		48		12.7	38.2	41.3	44.5	54.0	34.9	62.5	108.0	12.7	31.1	0.50
TS-75-PW-EC12-M	66.0		74.3	68.6	14.4	12.70	101.6		56		12.7	39.3	50.8	50.8	66.7	41.3	74.4	133.4	12.7	30.2	1.22
TS-250-PW-EC12-M	66.0		74.3	68.6	14.4	12.70	101.6		56		12.7	39.3	50.8	50.8	66.7	41.3	74.4	133.4	12.7	30.2	1.22

Product specifications

Warning – Do not use the devices outside of their rated specifications

Gage Resistance	350 ohm
Gage Type	Metal foil, full bridge
Excitation Voltage	10 VDC nominal
Output Signal	21 mVDC nominal at full load rating
Operating Temperature	-30°C to 80°C
Temperature effect on zero	0.02% of rating per °C
Combined non-linearity and hysteresis	0.5% of full scale maximum
Repeatability	0.2% of full scale maximum
Overload stops	105% to 150% of full load rating
Deflection at full load	0.016 in [0.41 mm.]
Cable Connector	12B221-1; MAGPOWR mating cable assembly Part #LCC5M, or mating connector Part #12B220-1 (pin 1, +power; pin 2, +signal; pin 3, -signal; pin 4, -power)
Climate Class	3K3 (EN60721)



WIRING DIAGRAM

Service requests and replacement parts

To request service or to get replacement parts, contact one of the following addresses:

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Fax: 1.405.755.8425
Web: www.maxcessintl.com

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Fifestrasse 1
65779 Kelkheim
Deutschland
Telefon: +49.6195.7002.0
Fax: +49.6195.7002.933
Web: www.maxcess.eu

OR

Siemensstrasse 13-15
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